



SDS

COD:BI-HSE-SFO-0250-00

Product Name: Vinyl chloride Monomer(VCM)

Company: Bandar Imam Petrochemical Company-Kimia

Catalogue NO: S.VCM.1086.2

Unit: VC

Section 1: Identification

Product Name: Vinyl chloride	Synonyms: Chloroethylene, Chloroethene, Monochloroethene			
Formula: C ₂ H ₃ CL	CAS NO: 75-01-4	UN NO: 1086	Class: 2	
Identified Uses: Industrial and professional. Use as an Intermediate (transported, on-site isolated). Using gas alone or in mixtures for the calibration of analysis equipment. Using gas as feedstock in chemical processes.				
Telephone & Telefax: 0615225-2300 , 2311		Address Email : dmooffice@bipc.org.ir		
Emergency phone number: 2222-125-119 / 2242-115				

Section 2: Hazard(s) Identification

Classification of the substance or mixture: Extremely flammable gas. Contains gas under pressure; may explode if heated. May react explosively even in the absence of air at elevated pressure and/or temperature. May cause cancer.

Label elements: Classification according to Regulation (EC) No 1272/2008 as amended. The full text for all R-phrases is displayed in section 16.	Hazard pictogram		
	Flammable	gas under pressure	Harmful

Hazard statements: Extremely flammable gas. May react explosively even in the absence of air at elevated pressure and/or temperature. Contains gas under pressure; may explode if heated. May cause cancer.

Precautionary statements

Prevention: Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection.

Response: IF exposed or concerned: Get medical advice/attention. Leaking gas fire: Do not extinguish, unless leak can be stopped safely

storage: Store in a well-ventilated place.

Disposal: None.

Other hazards: Contact with evaporating liquid may cause frostbite or freezing of skin.

Section 3: Composition/Information on Ingredients

Substance:				
Name	Formula	CAS NO	Concentration%	Classification
Chloroethylene	C ₂ H ₃ CL	75-01-4	<= 100 %	Extremely flammable gas. Contains gas under pressure; may explode if heated. May react explosively even in the absence of air at elevated pressure and/or temperature. May cause cancer.

Mixture: Not applicable.

Section 4: First-Aid Measures

Description of first aid measures

General advice

After inhalation: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Following skin contact : Contact with evaporating liquid may cause frostbite or freezing of skin. In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Get medical attention.

After eye contact: Rinse the eye with water immediately. Remove contact lenses, if present and easy to do. Continue rinsing. Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes.

After swallowing: Ingestion is not considered a potential route of exposure.

Most important symptoms and effects, both acute and delayed: Respiratory arrest. Frostbite.

Indication of any immediate medical attention and special treatment needed

Hazards: Respiratory arrest. Contact with liquefied gas can cause damage (frostbite) due to rapid evaporative cooling.

Treatment: Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

Section 5: Fire-Fighting Measures

General Fire Hazards: Heat may cause the containers to explode.

Extinguishing Media

Suitable extinguishing media: Water Spray or Fog. Dry powder. Foam.

Unsuitable extinguishing media: Carbon Dioxide.

Special hazards arising from the substance or mixture: No data available.

Hazardous Combustion Products: If involved in a fire the following toxic and/or corrosive fumes may be produced by thermal decomposition: carbon monoxide ; phosgene; carbonyl chloride ; Hydrogen chloride.

Advice for firefighters



SDS

COD:BI-HSE-SFO-0250-00

Product Name: Vinyl chloride Monomer(VCM)

Company: Bandar Imam Petrochemical Company-Kimia

Catalogue NO: S.VCM.1086.2

Unit: VC

Special fire fighting procedures: In case of fire: Stop leak if safe to do so. Do not extinguish flames at leak because possibility of uncontrolled explosive reignition exists. Continue water spray from protected position until container stays cool. Use extinguishants to contain the fire. Isolate the source of the fire or let it burn out.

Special protective equipment for firefighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. (See Section 16.)

Further information: none.

Section 6: Accidental Release Measures

Personal precautions ,protective equipment and emergency procedures:

Advice for non-emergency personnel: Evacuate area. Provide adequate ventilation. Consider the risk of potentially explosive atmospheres . Eliminate all ignition sources if safe to do so. Monitor the concentration of the released product. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. EN 137 Respiratory protective devices - Self-contained open-circuit compressed air breathing apparatus with full face mask - Requirements, testing, marking.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions: Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up: Provide adequate ventilation. Eliminate sources of ignition.

Reference to other sections: Refer to sections 8 and 13.

Section 7: Handling and Storage

Precautions for safe handling

Only experienced and properly instructed persons should handle gases under pressure. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Purge system with dry inert gas (e.g. helium or nitrogen) before gas is introduced and when system is placed out of service. Purge air from system before introducing gas. Containers, which contain or have contained flammable or explosive substances, must not be inerted with liquid carbon dioxide. Assess the risk of a potentially explosive atmosphere and the need for suitable equipment i.e. explosion-proof. Take precautionary measures against static discharges. Keep away from ignition sources (including static discharges). Provide electrical earthing of equipment and electrical equipment usable in explosive atmospheres. Use only non-sparking tools. Refer to supplier's handling instructions. The substance must be handled in accordance with good industrial hygiene and safety procedures. Ensure the complete system has been (or is regularly) checked for leaks before use. Protect containers from physical damage; do not drag, roll, slide or drop. Do not remove or deface labels provided by the supplier for the identification of the container contents. When moving containers, even for short distances, use appropriate equipment eg. trolley, hand truck, fork truck etc. Secure cylinders in an upright position at all times, close all valves when not in use. Provide adequate ventilation. Suck back of water into the container must be prevented. Do not allow backfeed into the container. Avoid suckback of water, acid and alkalis. Keep container below 50°C in a well ventilated place. Observe all regulations and local requirements regarding storage of containers. When using do not eat, drink or smoke. Store in accordance with local/regional/national/international regulations. Never use direct flame or electrical heating devices to raise the pressure of a container. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Damaged valves should be reported immediately to the supplier Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Keep container valve outlets clean and free from contaminates particularly oil and water. If user experiences any difficulty operating container valve discontinue use and contact supplier. Never attempt to transfer gases from one container to another. Container valve guards or caps should be in place.

Conditions for safe storage, including any incompatibilities

All electrical equipment in the storage areas should be compatible with the risk of a potentially explosive atmosphere. Segregate from oxidant gases and other oxidants being stored. Containers should not be stored in conditions likely to encourage corrosion. Stored containers should be periodically checked for general conditions and leakage. Container valve guards or caps should be in place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible material.

Specific end use(s): None.

Section 8: Exposure Controls/Personal Protection

Engineering measures: Ensure adequate air ventilation. Provide adequate general and local exhaust ventilation. Keep concentrations well below lower explosion limits. Gas detectors should be used when quantities of flammable gases or vapours may be released. Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Systems under pressure should be regularly checked for leakages. Product to be handled in a closed system. Only use permanent leak tight installations (e.g. welded pipes). Take precautionary measures against static discharges.

Individual protection measures, such as personal protective equipment

General information: A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered. Keep self contained breathing apparatus readily available for emergency use. Personal protective equipment for the body should be selected based on the task being performed and the risks involved. Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment. Do not eat, drink or smoke when using the product.

Individual protection measures:



SDS

COD:BI-HSE-SFO-0250-00

Product Name: Vinyl chloride Monomer(VCM)

Company: Bandar Imam Petrochemical Company-Kimia

Catalogue NO: S.VCM.1086.2

Unit: VC

Eye/face protection: Safety eyewear, goggles or face-shield to EN166 should be used to avoid exposure to liquid splashes. Wear eye protection to EN 166 when using gases. Guideline: EN 166 Personal Eye Protection.

Skin protection Hand Protection: Wear working gloves while handling containers. Guideline: EN 388 Protective gloves against mechanical risks. Material: Fluoroelastomer. Material: Nitrile butyl rubber (NBR).

Body protection: Wear fire/flame resistant/retardant clothing. Guideline: ISO/TR 2801:2007 Clothing for protection against heat and flame -- General recommendations for selection, care and use of protective clothing.

Other: Wear safety shoes while handling containers. Guideline: ISO 20345 Personal protective equipment - Safety footwear.

Respiratory protection: Material: Filter AX. Guideline: EN 14387 Respiratory protective devices. Gas filter(s) and combined filter(s). Requirements, testing, marking. Guideline: EN 137 Respiratory protective devices - Self-contained open-circuit compressed air breathing apparatus with full face mask - Requirements, testing, marking. Guideline: EN 136 Respiratory protective devices. Full face masks. Requirements, testing, marking.

Hygiene measures: Specific risk management measures are not required beyond good industrial hygiene and safety procedures. Do not eat, drink or smoke when using the product.

Environmental exposure controls: For waste disposal, see section 13 of the SDS.

Section 9: Physical and Chemical Properties

From: Liquefied Gas.	Melting point/range: -160°C	Relative Density: 0,9106 (20 °C)	PH: not applicable.
Color: colorless.	Boiling point/range: -14 °C	Relative vapour density(AIR=1) : 2,15	FLASH POINT: -78 °C
Odor: Ethereal.	Vapour pressure: 3.2 bar	Oxidizing properties: Not applicable.	AUTOIGNITION TEMP: 472 °C
MW: 62,5 g/mol	Viscosity dynamic: 0,011 mPa.s (20 °C)	Decomposition temperat: See the description below.	LEL (V/V %): 3,8 %(V)
Water solubility: 2.700 mg/l	Explosive properties: Not applicable.		UEL (V/V %): 20 %(V)

Physical state: Gas.

Decomposition temperat:

Decomp on burning producing toxic and corrosive fumes (hydrogen chloride and phosgene). When heated to decomp, it emits highly toxic fumes of hydrogen chloride. srp: and possibly phosgene.

Other information: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

Section 10: Stability and Reactivity

Reactivity: No reactivity hazard other than the effects described in sub-section below.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Can form a potentially explosive atmosphere in air. May react violently with Oxidants.

Conditions to avoid: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Incompatible materials: Air and oxidizers. For material compatibility see latest version of ISO-11114.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11: Toxicological Information

Information on toxicological effects		Endpoint	Species	Exposure route	Value
OT: 10-20 PPM	TLV-TWA: 7 PPM	LD50	Rat	Oral	> 500 mg/kg
IDLH: -	TLV-STEL: 15 PPM	LC50	Rat	Inhalation	390 mg/l, 2 h

Sensitisation: Reproductive toxicity **Carcinogenicity:** May cause cancer. **Teratogenicity:** This information is not available.

Specific target organ toxicity - single exposur: Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Not applicable to gases and gas mixtures.

Further information: none.

Section 12: Ecological Information (non-mandatory)

Toxicity

Acute toxicity Product: No ecological damage caused by this product.

Persistence and degradability: Not applicable to gases and gas mixtures.

Bioaccumulative potential: The product is expected to biodegrade and is not expected to persist for long periods in an aquatic environment.

Mobility in soil: Because of its high volatility, the product is unlikely to cause ground or water pollution.

Other adverse effects: No ecological damage caused by this product.

Section 13: Disposal Considerations (non-mandatory)

Sewage disposal-relevant information:

General information: Do not discharge into any place where its accumulation could be dangerous. Consult supplier for specific recommendations. Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor.

Disposal methods: Refer to the EIGA code of practice (Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.org>) for more guidance on suitable disposal methods. Dispose of container via supplier only. Discharge, treatment, or disposal may be subject to national, state, or local laws.

Waste treatment of containers/packagings: See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.



SDS

COD:BI-HSE-SFO-0250-00


Product Name: Vinyl chloride Monomer(VCM)

Company: Bandar Imam Petrochemical Company-Kimia

Catalogue NO: S.VCM.1086.2

Unit: VC

Section 14: Transport Information (non-mandatory)

Basic shipping description: In accordance with TDG Transport hazard class(es) : Flammable Gas.	Labelling 	
Proper shipping name: VINYL CHLORIDE	UN number: 1086	Class: 2
Packing group : -	Environmentally hazardous: not applicable.	Special precautions for user : -
Transport in bulk according: not applicable Additional identification: Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly secured. Ensure that the container valve is closed and not leaking. Container valve guards or caps should be in place. Ensure adequate air ventilation.		

Section 15: Regulatory Information

Safety , Health and Environmental regulations / legislation specific for the substance or mixture EU regulations Major Accident Hazard: SEVESO III Legislation: Flammable, gas under pressure. Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: - National legislation: This Safety Data Sheet has been produced to comply with Regulation (EU) 453/2010. Storage class: 2 Chemical safety assessment: CSA has been carried out.

Section 16: Other information

Further information Wording of the R-phrases and H-statements in section 2 and 3 H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated. H350: May cause cancer. R12: Extremely flammable. R45: May cause cancer. Training information: Users of breathing apparatus must be trained. Ensure operators understand the flammability hazard.		
Issue Date: 2019.11.20	Last revised date: 2020.02.20	Version: 1.1
Editors: HS&E Manager.		
Reference: according to Regulation (EC) No. 1907/2006		
DISCLAIMER OF LIABILITY The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.		